

--ABSTRACT OF THE DISCLOSURE

A rotary electric machine of alternating current type designed to be connected directly to a distribution or transmission network having at least one electric winding. The winding includes at least one electric conductor, a first layer with semiconducting properties surrounding the conductor, a solid insulating layer surrounding the first layer and a second layer with semiconducting properties surrounding the insulating layer. A brushless excitation system, switchable between positive and negative excitation, is also arranged for excitation of the machine. An electric power plant includes such a rotary electric machine. In a method of exciting a rotary electric machine with both positive and negative excitation current direction, a two-way field over-voltage protection mechanism or a two-way discharge circuit is connected temporarily across the field winding of the machine.--

IN THE ABSTRACT OF THE DISCLOSURE

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